

MACDONALD JOURNAL

OCTOBER
1968

AGRICULTURE

FOOD SCIENCE

EDUCATION



1967 Royal Winter Fair Holsteins Grand Champion Female
Oak Ridge Royal Linda, Oak Ridge Farm Ltd. Oak Ridge, Ontario.

R. W. Wilson

D.H.A.S.
2 YEARS
LATER

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THE MACDONALD LASSIE



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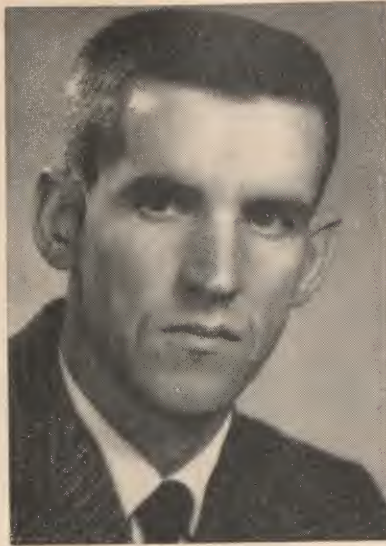
18 QUEBEC YOUNG FARMERS CAMP

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OUR COVER: R.D. Wilson, noted Canadian artist, here depicts the 1967 Royal Winter Fair Holsteins Grand Champion Female, Royal Linda, Oak Ridges Farms Ltd., Oak Ridges, Ont.

Artwork supplied courtesy of the Bank of Montreal.

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attitudes:

How an individual feels about his profession is extremely important. If that attitude is positive — that is, if the individual thinks that his work is important and productive then he is a happy individual. If he feels his role is unproductive then he is unhappy. Attitudes are extremely important in today's complex, rapidly changing and confused society.

Many of our extension activities are related to and working with rural people. I'd like to mention only one situation, which I think shows two opposing attitudes towards the farming profession. At the fall county fairs I always enjoy talking to people, and generally I hope I do more listening than talking. I enjoy finding out first hand what farmers think and say about their own profession. It doesn't take long to meet farm operators with different attitudes towards their business.

These attitudes vary widely, from the young man who recently told me that no one could push him around or out of farming; to the next young man who was very pleased that his dairy quota had recently been increased and his situation appeared very bright. The negative attitude in my books is for the pessimistic farmer. In this specific case the man was

partially beaten before he started. In his mind everyone was against him, the government was the first to be blamed — but this is nothing new. First it is the government, then the milk company, then the cattle dealer and there is just no end to the list of people some farm owners blame for their lot as professional farmers.

I get much personal enjoyment from talking with the optimistic farmer. The one who admits that he loves to farm and is making a decent living doing it; and believe me there are many in this category. This operator is not looking for someone to blame for his lot in life; he is looking for information and advice that he can use to advantage on his own farm.

To be a good farmer, producing high-quality low-cost food requires a constructive and positive attitude towards a man's own profession. We have thousands of these men on farms in Quebec. If an individual feels that his profession is trodden upon and everyone is against him then no doubt he is an unproductive worker and not contributing to his profession.

The happy, productive farm-owner and operator has a positive attitude about his profession. The pessimist feels the opposite. I've used only one example; every profession is the same. Your attitude will make a difference.

—Galen Driver

guest editorial

two years and 24,000 cows later

a report on the
Dairy Herd Analysis Service

A little over two years ago the Animal Science Department at Macdonald College began a computerized dairy-herd improvement service for Quebec dairy farmers. It was unique in Canada in that it provided the dairy farmer with much more information than former DHI services, and it employed electronic milk-testing equipment and a computer to achieve this. It was named the Dairy Herd Analysis Service (DHAS).



by Professor Peter Hamilton

DHAS was developed by Dr. John Moxley of the Animal Science staff at Macdonald College. He patterned it after similar programs in the United States but introduced many new features. He considered such a service essential to the future success of the dairy business and attempted first to interest others in providing it. Finally with encouragement from Dr. Dion, Dean of Agriculture, it was decided that Macdonald College offer the service. In June 1965 the decision was made to set up and operate a computerized dairy-herd improvement service with fees to the dairy farmer sufficiently high to eventually meet operating costs, but with aid from private funds at the start. Dr. Moxley began immediately with the involved work of establishing the facilities,

developing policy, and writing the complex computer program. At the same time, Dr. H. F. MacRae, now Chairman of the Department of Animal Science, established a milk-testing laboratory and installed an Infra Red Milk Analyzer.

While this preparation work was going on, Quebec dairy farmers were introduced to DHAS at Montreal's Salon of Agriculture. A display sponsored by the Bank of Montreal and staffed by Macdonald College personnel explained DHAS and prepared the way for the opening of the service. The field work was organized, and five supervisors were hired in May and June. The first herd was registered in May, and by July of that year (1966) there were 28 herds enrolled. DHAS was off and running.

At the time of writing this article (July 1968), it is just over two years since the first herds were enrolled on DHAS. There are 775 herds on the service with a total of 24,506 cows. The program has expanded to include four provinces of Canada and a fifth province is expected to be involved shortly.

A total of 671 herds in 60 counties are on the service in Quebec. In the three Maritime Provinces there are 106 herds enrolled; 49 in Nova Scotia, 28 in New Brunswick and 29 in Prince Edward Island. Nova Scotia registered its first herds with DHAS in early 1967 and New Brunswick and Prince Edward Island in March of this year.

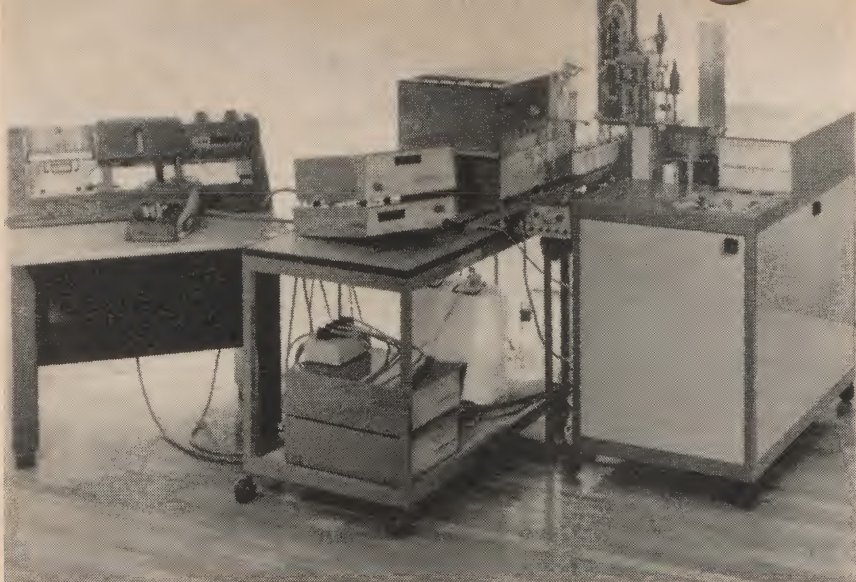
milk testing

Milk testing is an essential part of the DHAS operation. It provides the farmer with the fat and protein content of the milk for each cow monthly. The milk testing laboratory was developed to service DHAS herds by Dr. H. F. MacRae, and is operated under his direction. The laboratory was originally equipped with an Infra Red Milk Analyzer (IRMA) and all testing was done with this equipment up to the end of 1967. During this period, the IRMA instrument at

THE PROGRESS OF ENROLMENT IN DHAS

		July 1966	July 1967	July 1968
Quebec	Herds	28	275	671
	Cows	980	9075	20942
Maritime Provinces	Herds		12	104
	Cows		361	3564
TOTAL	Herds	28	287	775
	Cows	980	9436	24506

By July 1969, the number of DHAS herds in Quebec is expected to reach 1,400, and the number of cows 42,000.



The complete, automated milk-testing equipment now operating in the Macdonald College laboratory. Milk samples are tested for fat and protein at the rate of three a minute.

the Macdonald College laboratory tested more milk samples than any other IRMA in operation. However the number of herds entering DHAS reached a point late in 1967 when it became clear that more testing equipment was necessary.

In February 1968, the first automatic milko-tester unit to come to this Continent was installed in the Macdonald College Laboratory. It determined fat content only and put milk samples through automatically at the rate of three per minute. In September of this year the protein-testing unit, designed to integrate with the automatic fat tester will be added, completing the automatic testing equipment.

Presently over 18,000 samples a month are being tested in the Macdonald College laboratory. A year from now the number is expected to be 35,000 a month.

supervisors

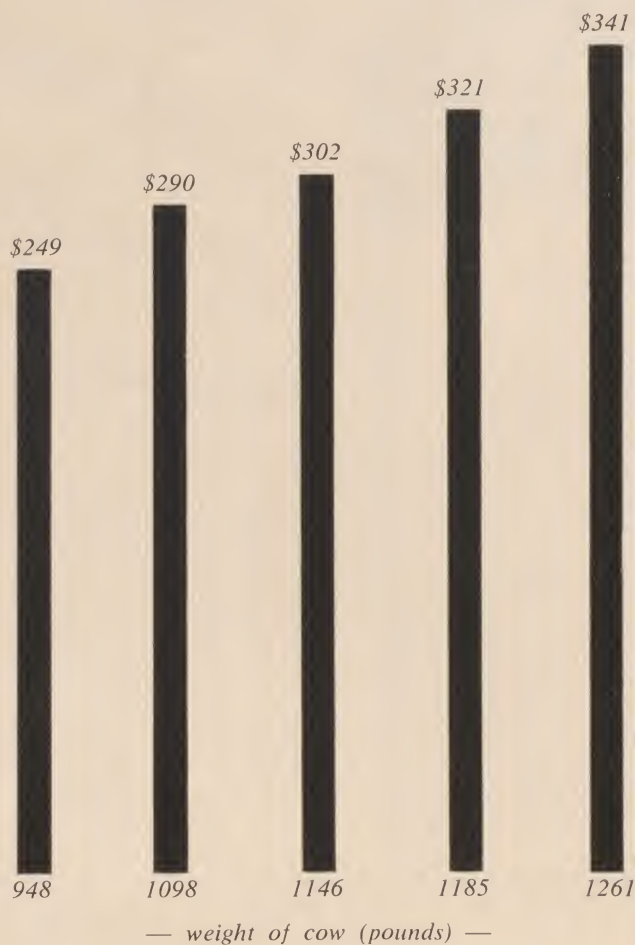
The DHAS field staff in Quebec are known as Supervisors but their work is more to assist than to supervise. There are two reasons for this. First, DHAS is not an official milk-recording program as it is operated in Quebec. Milk production records are for the dairy farmers' own use and no supervision of milk weights is required. Secondly, DHAS demands much more information on the feeding, management and business aspects of the dairy farm than any other dairy-herd improvement program. The fieldman therefore becomes involved, often deeply, in the production problems of the dairy farm.

All supervisors presently working on DHAS are graduates of either an Institute of Agricultural Technology or the Macdonald College Diploma Course. They are in direct contact with the staff of the Animal Science Department at Macdonald College through the DHAS central office.

The Supervisor visits each farm monthly on test day but is not required to be present at milking time. He checks milk weights and other data, and works with the farmer to complete the information required on feeds, feeding, costs and management. This information and the milk samples are then taken by the supervisor for delivery to the milk-testing laboratory and computing center. The supervisor also works with the farmer to help interpret information received on his monthly report from the DHAS center.

DHAS began with five supervisors, it increased to seven (one part-time) by July 1967, and to 16 (two part-time) by July 1968. The average num-

The value of milk per cow less feed cost increased with size of cow.



Sorted for cow size, the herds increased in income per cow less feed cost as cow size increased. Though this means that on the average, the larger cows returned more dollars for labour and investment, it should not be interpreted as meaning that all large cows are higher and more efficient producers than small cows.

The very high proportion of Holstein herds suggests this to be largely a within-breed relationship.

ber of herds per supervisor at present is 42 but it ranges all the way from 30 to 92. The dairy farmers who first want DHAS are widely scattered in any district. It is therefore necessary to start with large districts with a lot of driving between herds. As the number grows, the districts are divided and each supervisor covers less area and services more herds.

In the first two years of operation, DHAS kept reaching out into new dairy areas. Now the 16 Supervisors cover 60 counties of Quebec. As most of the dairy areas of the province are now serviced, expansion into new territory will be much more limited. With more herds enrolling within the present areas served, the supervisors' districts will become smaller and more concentrated, each supervisor will serve more herds and the field service will become more efficient. The number of farms per supervisor is expected to finally reach about 120.

DHAS computing center

All the information coming from the dairy farms and the milk testing laboratory each month is checked by the DHAS central office, punched on computer cards and processed by the computer. The results for each dairy farm are tabulated on the monthly performance record forms by the printing unit of the computer and go forward to the dairy farmers by mail.

This is the heart of the DHAS operation. It is here that the raw incoming data are transformed into valuable production and management information for the farmer. The computer processes the information rapidly and accurately but it must be programmed to interpret the raw data and to produce the specific detailed information that goes back to the dairy farmer each month.

Dr. John Moxley is the man behind the computer for DHAS. His extensive knowledge and experience in animal science combined with his working ability with mathematics and computer programming makes Dr. Moxley unique for this work. He has a special interest and knowledge in milk recording systems, and believes the kind of information provided by DHAS is essential to a successful dairy business.

The original computer program for the processing of DHAS data was developed and put into effect by Dr. Moxley before the first herd was enrolled in May, 1966. Though this was the basis for the program as it is today, the work of writing and rewriting programs to direct the computer has been almost continuous



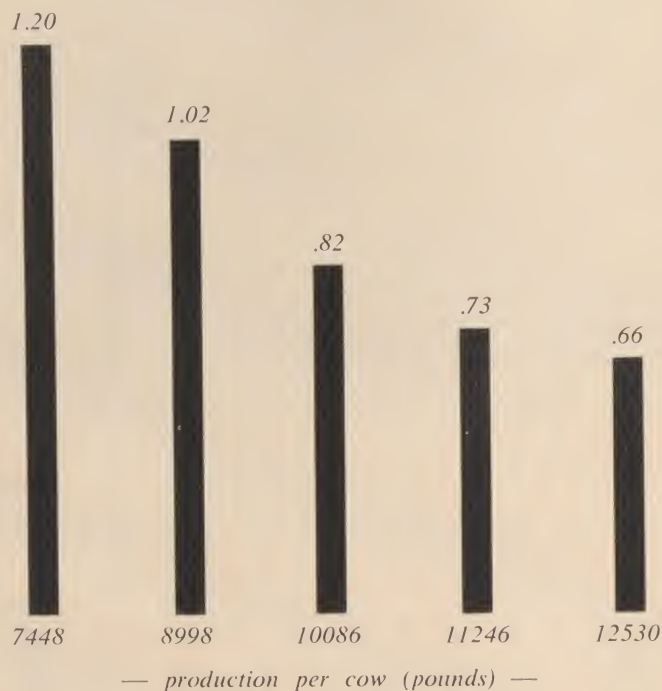
Dr. J. Moxley at the console of the 1620 computer. Information on over 24,000 cows in 775 herds on DHAS is processed monthly by this equipment.

The value of milk per cow less feed cost increased sharply as production per cow increased.



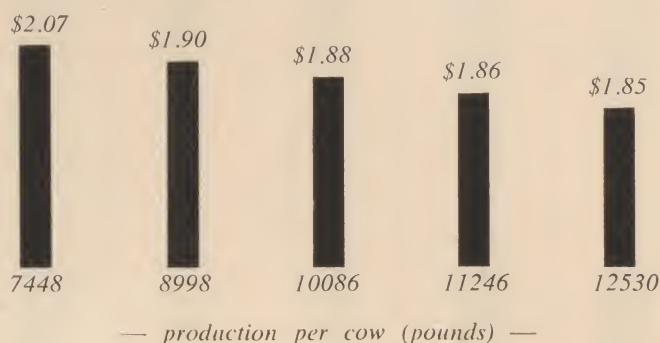
Though feed cost increased with higher production, income from milk sales increased much more rapidly. Herds in the highest production group averaged \$164 more in value of milk over feed cost per cow than herds in the lowest production group.

The number of hours of labour to produce 100 lbs. of milk dropped as herd production per cow increased.



These relationships suggest that high-producing cows can be kept with little or no more labour than low-producing cows.

The herds with the highest production per cow produced milk at the lowest cost per 100 lbs.



One of the common misconceptions in dairy-cattle feeding is that the cost of producing each 100 lbs. of milk must increase with heavier feeding and higher production per cow. In DHAS herds the feed cost of producing each 100 lbs. of milk decreased as the milk production per cow increased. Though the percentage of the total feed value (net energy) from meal was highest in the highest-producing group, any extra feed cost was more than offset by the overall increase in feed efficiency in the higher producing herds. (Less of the feed was used for maintaining cows, and more for the production of milk in the higher producing herds.) Herds in the top group not only produced more than 5,000 pounds more milk per cow than the lowest group, but did it at a feed cost of 22¢ per cwt. less.

It is important to note that DHAS herds receive a meal-feeding guide for each cow monthly. Higher production without the use of good meal feeding practices may well result in sharp increases in the cost of producing each 100 lbs. of milk.

over the two years DHAS has been operating.

Each change and addition to the DHAS program that increases or improves the information going out to the dairy farmers involves the programming of the computer. Because changes will continue to be made whenever new information on dairy cattle production and management comes to light, the work of programming the computer will continue to be a vital aspect of DHAS system. Of the many changes made in the first two years of operation, three stand out as having a major influence on the information received by dairy farmers.

The edit program was the first to require a major job of computer programming. It went into effect a few months after DHAS was in operation and though it did not provide more information to the dairy farmer, it did increase the accuracy of the information already supplied. The edit program provides a means of testing the accuracy of all information going into the computer for each herd each month. Before the monthly performance record is produced, the computer cross-checks all information and turns out an edit sheet on each herd that summarizes the herd performance, and clearly points out mistakes or unusual situations that should be checked. Errors in calving or drying-off dates are typical of the information picked up by the edit program. The accuracy of the roughage consumption estimates and the coding of roughages for quality are cross-checked along with other data submitted from the test-day data forms. The edit sheets are scanned by the personnel at the DHAS central office and corrections are made where necessary before the monthly performance record is produced. The supervisors receive copies of the edit sheets for the herds in their districts. This provides them with a summary of the monthly performance records of each of their herds previous to the next test day. The edit sheets also give them an opportunity to know what errors or discrepancies occurred in the information going forward from the DHAS herds in their districts and to take steps to prevent the same problems from occurring again.

The second change that had a significant influence on the information received by dairy farmers on DHAS was the cow rating. This was added to the program in December 1967 and made its first appearance on the monthly performance records for DHAS members at that time. The cow rating is a measure of a cow's

AVERAGES OF DHAS HERDS

	Cow size (lb)	Milk pro- duction (lb)	Return over feed-cost per cow (\$)	Feed cost of cwt. of milk (\$)	Labour hours per cwt. milk
Top 20% A	1261	12530	400	1.57	.5
B	1185	11246	338	1.76	.7
C	1146	10085	299	1.87	.8
D	1098	8998	261	1.99	.9
Low 20% E	948	7448	205	2.28	1.6
Holstein	1160	10426	309	1.86	.8
Ayrshire	1040	8638	253	1.87	1.0
Jersey	830	7203	250	2.41	1.7

Dairy farmers on DHAS used tables like this to compare their 12-month averages with the averages of all others completing one year on DHAS. For comparison with all herds, each trait was sorted separately, divided into 20% groups, and each 20% group averaged. The table lists these five averages from the top group to the low group.

For comparison with the breed average, the traits were sorted according to breed.

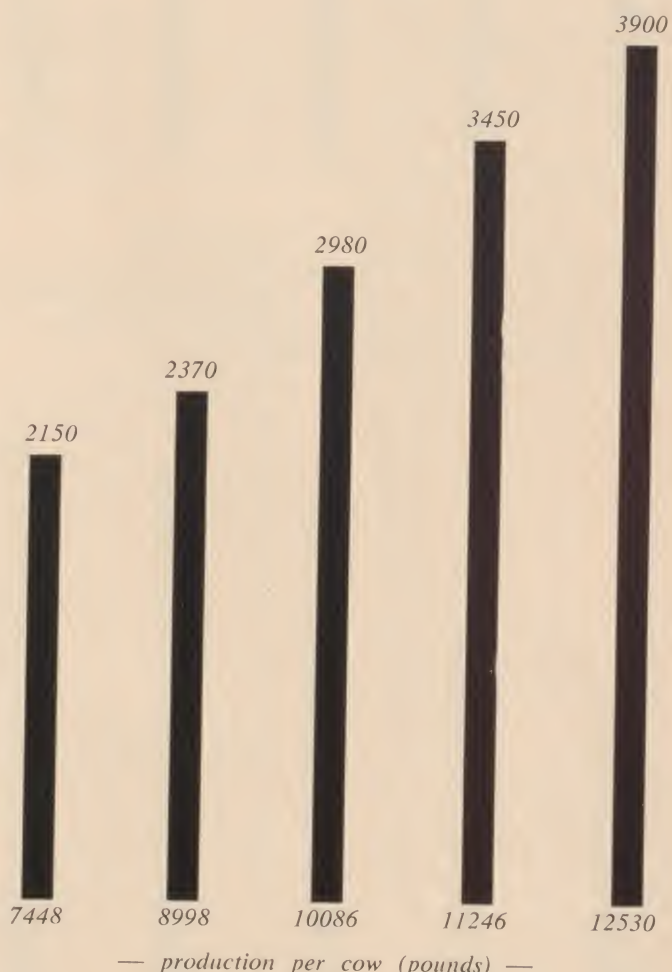
lactation performance in relation to the average of the herd. It is expressed as the percent above or below the herd average, one hundred always representing the average production per cow in the herd. A cow with a rating of 112 indicates she is 12% above the average of the herd in her present lactation. The rating is adjusted for age and butterfat test and is recorded in the last column of the monthly performance record for all cows that have been three or more months in lactation.

The cow rating was developed by Dr. Moxley and though the concept may seem simple, the calculations are complex. The computer is programmed to determine the average lactation curve for each herd monthly. Each cow is then rated according to its position above or below this average curve at her stage of lactation. Sufficient lactations have now been completed to indicate a high relationship between ratings at three months of lactation and those for the same cows at the end of the lactation. The cow rating provides a reliable measure of a cow's production potential in the herd at an early stage of lactation.

The third event in the DHAS program that gave dairy farmers on DHAS more information on their own business was the publication of the averages for all herds on DHAS for one year. This occurred in August of this year and gave the dairy farmer on DHAS his first opportunity to compare his herd and his dairy operation with others on DHAS.

The computer was programmed to sort the herds in two ways. First, all 204 herds completing one year on DHAS as of June 1, 1968, were sorted from the highest to the lowest for each of the traits reported in the 12-month average. The herds were

The pounds of meal fed per cow increased with production at a rate of about 1:3, but did narrow from slightly lighter feeding than 1:3 in the low production group to slightly heavier feeding than 1:3 in the high producing group.

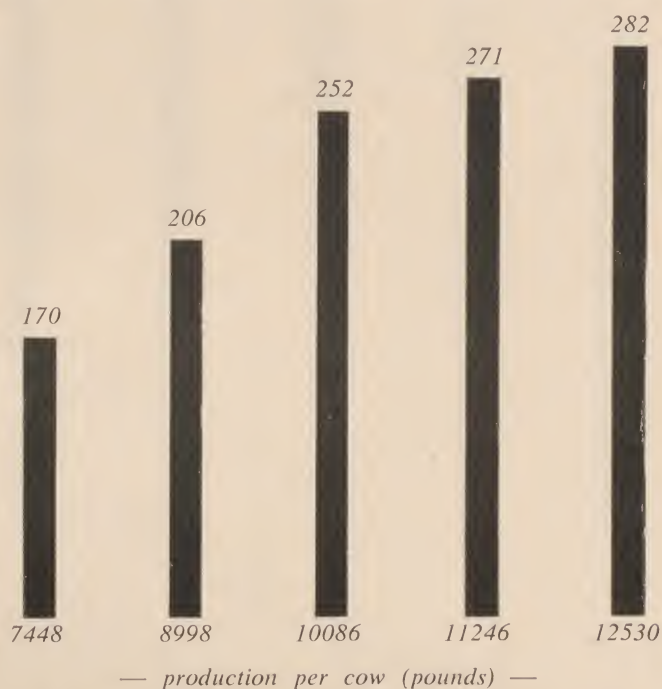


Additional meal was not consumed at the expense of roughage consumption. The highest-producing herds consumed the most total roughage. Silage (including haylage), as a proportion of the total roughage fed, increased sharply from the lowest to the highest producing herds.

The income from milk per cow increased directly with the increase in milk production per cow.



The number of 1000 lbs. of milk produced per worker increased as average production per cow increased.



Labour income in the high producing herds almost doubled that in the low producing herds.

then divided into five equal groups, one group being the 20% of the herds highest in a particular trait, another group representing the 20% of the herds second highest, and so on down to the lowest 20% group. The average for each 20% group was then determined and the results printed out on cards in table form. By placing this card over his monthly report, the dairy farmer on DHAS could compare these averages with his production per cow, return over feed cost per cow, cost of producing 100 lbs of milk, labour to produce 100 lbs of milk, cow size and the many other traits reported in the 12-month cow average. Secondly, all 204 herds completing one year on DHAS as of June 1, 1968, were divided according to breed. The average for each trait of all herds in each breed was determined. Again, the results were printed out in a form that made it easy for the dairy farmer on DHAS to compare his herd and his dairy operation with the average of his breed on DHAS. Of the 204 herds in this analysis, 176 were Holstein, 15 Ayrshire and 13 Jersey.

The edit program, the cow rating and the summary of the 12-month averages were three events that occurred during the two years of operation of DHAS that involved major changes in the computer operations. There have been others with less obvious or direct benefits to the DHAS dairy farmers.

The primary function of DHAS is to provide each dairy farmer it serves with vital information directly concerned with his herd and dairy business. However, the mass of information that is accumulated on the production and business aspects of dairy farming may well have important contributions to make to the dairy industry in Eastern Canada. With the information stored by the computer it is a relatively simple job to determine trends and patterns that may help to determine where the problems are and how they can be solved. Already some relationships between production and the feed, labour and income aspects of the dairy farms on DHAS have been established. A few of the more significant relationships are shown with this article in bar-graph form. The 204 herds that had completed one year in DHAS by June 1, 1968 were used in this analysis. These herds represented about 7,000 cows. It should be noted that 86% of the herds were of the Holstein breed. Average production per cow for all 204 herds used in this analysis was 10,074 pounds with a butterfat-test averaging 3.62%.

Macdonald Reports

Dr. Farmer at nutrition meet

Dr. Florence A. Farmer, Associate Professor, School of Food Science, Macdonald College, attended the Western Hemisphere Nutrition Congress 11, San Juan, Puerto Rico, August 26 - 29, 1968. This Congress was organized by the American Institute of Nutrition & Council on Foods & Nutrition, American Medical Association, in cooperation with La Sociedad Latinoamericana de Nutricion and the Nutrition Society of Canada.

Merit contest winners

Winners in the thirty-second junior Provincial Agricultural Merit contest received their certificates on Saturday, August 31st, at a dinner given in their honour by the Department of Agriculture and Colonization at the fifty-seventh Quebec Provincial Exhibition.

The dinner, which began at 6.00 p.m. in the central building at the exhibition grounds, was presided over by the Minister of Agriculture and Colonization, Mr. Clément Vincent, and attended by prominent civil and religious guests including the mayor of Quebec, Mr. Gilles Lamontagne and a representative of the Archbishop of Quebec, His Eminence Cardinal Roy.

The junior Provincial Agricultural Merit contest, which was formerly designed to round out the basic training of future farmers, is now meant for a much wider range of entrants.

Those taking part in the contest do not all necessarily intend to specialize in some branch of agriculture. But they are all keenly interested in farming and the Department, in organizing the contests, always hopes to inspire some of the entrants—especially those holding diplomas from intermediate schools of agriculture—to take up farming as a career.

the winners

The five prize winners in each of the three classes of the 1968 contest are as follows:

Class for boys with diplomas: Chris Judd, Shawville (Pontiac) 20 points; Pierre Gaudet, Aston Junction (Ni-colet) 17 points; Larry Frizzle, R. R. # 1 (Brome) 16.5 points; Ken McFarlane, Howick (Châteauguay) 16.5 points; Benoit Coulombe, R. R.

1, St-Coeur-de-Marie (Lake St. John) 15.3 points.

Class for boys without diplomas: Eugène Asnong, Pike River (Missis-quoi) 18.5 points; Bertrand Lafleur, Grand-Remous (Gatineau) 17.5 points; Daniel Tremblay, Albanel (Roberval) 16.5 points; Grégoire Théberge, St-Simon (Rimouski) 15.5 points; James Todd, R.R. #5 (Huntingdon) 14.5 points.

Class for girls without diplomas: Hélène Bédard, St-Tite (Laviolette) 17.7 points; Nicole Corbeille, St-An-toine (Richelieu) 16.7 points; Louise Larose, Barraute (Abitibi East) 16 points; Armande Lafrenière, Ste-Thé-rèse (Gatineau) 15.8 points; Adèle Laferrière, St-Viateur (Berthier), 16.5 points.

other finalists

In addition to the above named prize-winners, six contestants in each of the boys' classes and eight in the girls' class also qualified for the provincial finals in the elimination round held in the twelve agricultural regions of Quebec.

plowing championships in Quebec

Thanks to the Canadian Plowing Council, Match plowing has now become a popular event for farmers in most provinces. Each year the Council sponsors a Canadian Championship Plowing Match in a different province, and chooses a team of two plowmen to represent Canada in the World Plowing Match. This year, in April, Canada's team competed in Salisbury, Rhodesia, and next year the World Match will be held near Belgrade, Yugoslavia.

This fall the Canadian Championship Match will be held in Quebec in connection with the Quebec Provincial Plowing Match, at St. Augustin, just northwest of Montreal, in Two Mountains County. This County boasts many crack plowmen, who will be competing in the Provincial Championships, along with men from at least a dozen other counties, for the right to represent Quebec in the Canadian Championship Match.

These Matches were held on Les Fermes Miron, on the Montreal-Lachute highway (Route #8) on October 2, 3 and 4, 1968.

faculty of education appointments:

MR. ROBERT GORDON ADAMSON obtained his B. Sc. (Hon) degree from Liverpool University. He taught Chemistry and General Science for five years in England and comes to us after ten further years of teaching at Rosemount High School. Mr. Adamson will give courses in methods of teaching science.

MR. GARY ANDERSON was a student at Macdonald in 1963-4. He taught at Montreal High for two years before doing his doctoral studies at Harvard. Mr. Anderson will teach statistics and conduct research in student teaching with us and he will also work half-time with Dr. Pounder on Collegial Studies. He is married and has one child.

MR. JOHN BARKWORTH replaces Andrew Belcher in the A-V Centre. He is an evening student at Sir George Williams in Mechanical Engineering.

MR. DONALD BURGESS joins our staff in Geography after five years as Headmaster in a high school in Jamaica. Prior to that he taught for five years in England. He holds an M. A. degree from Durham. Mr. Burgess will live with his wife and family at No. 1 Rivermead.

MR. KANANUR CHANDRASEKHARAIH (CHANDRA) is replacing Professor Murray McDonald in the Department of History and Philosophy of Education. Dr. Chandra took his undergraduate degree and an M. A. in India before coming to Southern Illinois University where he did a second Master's programme (Guidance) and completed his Ph. D. in Social and Philosophical Foundations of Education. He is married and has two children.

MR. LOUIS ELFENBAUM is joining the staff in Physical Education after teaching in Manitoba, Ohio State University, and West Texas State University. He obtained his Ph. D. from Ohio in 1966. Dr. Elfenbaum will live at 25 Maple with his wife and young family.

MR. WOLFGANG J. FLOCH obtained his Ed. D. degree from Toronto in 1967. Last year he taught in Memorial University. He is joining our Department of Educational Psychology and will live in No. 8 Glenaladale.

(more APPOINTMENTS, p. 16)

THE FAMILY FARM

PUBLISHED IN THE INTERESTS OF THE FARMERS OF THE PROVINCE BY
THE QUEBEC DEPARTMENT OF AGRICULTURE AND COLONIZATION

weather modification

For the last twenty years experiments and research in weather modification have been carried out in Canada and other countries. Attempts have been made to dissipate clouds, disperse fog, increase rain and snowfall, inhibit hail and lightning, and on a larger scale, to change the course of large-scale weather systems. Although many techniques have been developed, progress will be limited until meteorologists learn, through research, more about the natural processes of the atmosphere.

The economic potential of cloud seeding to increase precipitation and consequently to increase the quantity and quality of farm and ranch produce is highly significant, and it is easy to see other potentialities in the fields of forestry, hydro-electric power, industry, etc. There has been, however, much controversy over the effects of cloud seeding. Scientists just do not know enough about the physics of natural precipitation to say conclusively whether or not artificial stimulation is effective. It has been generally accepted that silver-iodide seeding of clouds, which are formed in moist air before being forced upward over a mountain slope, will produce increases in rainfall of 10 to 15% in the mountain areas. There is evidence that silver-iodide seeding may increase precipitation under some conditions over flat terrain, but decrease it under other conditions. Scientists have not yet been able to specify these conditions or even to positively establish the fact that they exist. Many countries, especially the United States, are committing large resources of scientists and funds in an attempt to find answers to these questions.

Other experiments and research are being carried out to see whether or not cloud seeding with silver iodide can decrease hail. Although recent reports from Russia indicate excellent results, the data on which these conclusions are based have not yet been available to the international scientific community. No practical success can be expected at modifying hurricanes or tornadoes before the de-

velopment of adequate theories of the growth and behaviour of these severe storms. Fog and low cloud can be dissipated over limited areas by seeding with dry ice, or other agents, provided the temperatures are below 20°F. On the other hand, it is possible although extremely costly to dissipate fog at warmer temperatures by burning large amounts of fuel.

stored potatoes

Chemical changes that occur in potatoes stored at low temperatures present a problem for commercial producers of chips and french fries.

Potatoes subjected to temperatures of 45 degrees or less become "sweet"—the starch in them turning to sugar. They are then useless for chips or french fries because the sugar produces an undesirable color and flavor when they are processed.

Normally, the sugar can be converted back to starch by keeping the potatoes in a temperature of over 65°F for several weeks—a process known as conditioning and which is followed by processors. But conditioning can be a costly job for processors because of the loss in tuber weight from shrinkage that occurs at high temperatures, and the expense for buildings and other facilities needed to keep the tubers in a warm environment.

However, the potato strain F889—developed in the CDA breeding program at Fredericton—often has only limited amounts of sugar in tubers stored at low temperatures.

The strain is still undergoing regional trials, but its value for processing has been shown in tests at this station. Compared with the standard variety Kennebec, F889 tubers had a low sugar and high starch content and gave excellent chips when processed on their removal from 40-degree storage.

A storage temperature of 55° gives good results with F889 tubers. Tuber weight loss from shrinkage was low and chip color was much like that obtained with tubers held at 70°. (From "Canada Agriculture")

*Compiled by
Tom Pickup
Information Service,
Quebec Department of
Agriculture and Colonization*

*Photographs by
Office du Film du Québec*

record of performance programme for beef bulls

A) PURPOSE:

The purpose of the record of performance station for young beef bulls is to provide cattlemen with supervised individual testing of the rate of gain of their future sires. Since this factor is of great hereditary and economic importance, cattle breeders ought to know it.

B) RESPONSIBLE AUTHORITIES:

A provincial committee composed of representatives for the different beef breeds, and of the meat packers' council, the universities, and the federal and provincial Departments of Agriculture is responsible for preparing and applying the regulations governing the station.

The testing station is situated at the Artificial Breeding Centre at St-Hyacinthe and operated by the Department of Agriculture and Colonization.

C) ELIGIBILITY:

- 1 - Any Quebec beef cattle breeder may apply to the station for testing.
- 2 - In order to be admitted to the station, every bull must be tattooed and the owner must produce its certificate of registration.
- 3 - Charolais bulls must have at least $\frac{7}{8}$ Charolais blood.

D) GENERAL REGULATIONS:

- 1 - The station is operated in conformity with the rules of the Canadian beef-cattle ROP testing stations program.
- 2 - The final date for enrolling animals for testing is September 1st.
- 3 - Animals will be admitted to the station on the 5th, 6th and 7th of November 1968.
- 4 - In order to allow for a period of adjustment, the official testing will not begin until November 25th.
- 5 - The compulsory testing period is 140 days, ending on April 15th 1969.
- 6 - The bulls will be weighed at the start and finish of the test in the presence of a responsible officer appointed by the Committee.
- 7 - In order to be admitted to the station, bulls must be 160 to 250 days old, i. e. born between March 1st and May 31st 1968.
- 8 - The owner may choose the animals he wishes to have tested.
- 9 - All animals enrolled at the station must have good conformation and be free from abnormalities. Prior to their arrival at the station they will be examined by a person des-

ignated by the Committee.

- 10 - If more animals are enrolled for testing than the station can accommodate, the final choice will be left to the discretion of the Committee.

E) HEALTH:

- 1 - The owner must produce a certificate stating that the animals come from a brucellosis-free and tuberculosis-free herd. This certificate (form HA4) must have been signed by the veterinarian of the district from which the animal came, within the 30 days preceding the animal's arrival at the station.
- 2 - The herds from which the animals come must also be free from minor infectious diseases.
- 3 - Animals must be injected on the farm against shipping fever, before they leave for the station.
- 4 - Responsibility for animals brought to the station still rests with the owner, but there will be a veterinarian on duty at the station.

F) CHARGES FOR TESTING:

- 1 - Application for enrolment must be accompanied by a sum of \$10.00 for each animal.
- 2 - The charge for testing will be \$75.00 per head, payable at the end of the test.
- 3 - A grant of 10¢ for each mile of the distance between the owner's farm and the station will be paid for bringing and taking away the animal, up to a maximum of \$50.00. This amount will be deducted from the \$75.00 payable at the end of the test.
- 4 - Animals must be taken away during the week following the end of the test. The owner will be charged \$2.00 per day for each of his bulls remaining on the station after this period.
- 5 - If, for some reason, the Committee cannot admit an animal to the station, its enrolment fee will be returned to the owner.

G) NOTIFICATION OF RESULTS:

At the end of the test period, the station will issue a certificate for each bull, showing his average daily gain and index of gain, weight at the end of the test and weight corrected to 365 days.

Application for enrolment and all enquiries should be addressed to the Secretary of the Beef Cattle Testing Station, P.O. Box 518, Saint-Hyacinthe.

The Deputy Minister of Agriculture
and Colonization
ROMEO LALANDE

assistance for the improvement of horse breeding

The improvement of farm horses remains of importance in the progress of our agriculture, since the horse plays an appreciable part in the normal development of a good many Quebec farms.

In view of the fact that the maintenance of first grade sires at all times is essential to any general improvement in animal breeding, it is important that stallion owners be encouraged to keep only first-class sires that are absolutely sound and of the best quality. With a view to assisting such owners to meet their expenses of interest on capital invested, insurance upkeep, etc., and thus to promote the improvement sought for, the Department of Agriculture and Colonization intends to keep in force the present assistance for the production of good horses.

This offer applies only to draught stallions, namely those of the Belgian, Percheron, Canadian and Clydesdale breeds.

Any proprietor of a stallion grading "A" or "B" who wishes to take advantage of the assistance here offered must observe the following rules:

1 - Forward to the Administration Service, ON or BEFORE JULY 1st, a list stating the number of mares served and known to be in foal by such a stallion and the names and addresses of the owners of the mares together with the date of each service (all on a special form duly supplied for this purpose):

2 - All stallions intended for the service of mares must be examined first by two officers appointed to this end by the Minister of Agriculture and Colonization. These inspectors are responsible for writing a report on every horse examined, taking as a basis the following requirements and standards of merit:

a - The animal must be registered in the Canadian National Live Stock Records (in the name of the OWNER). The certificate of Registration must be produced for verification by the Inspectors who, in addition, are asked to retain the Enrolment certificate previously issued by the Stallion Enrolment Board for the current year.

b - Besides being sound in every respect and showing plenty of breed character, the stallion must possess the necessary height and weight, a good conformation with legs set correctly under him, and a correct and free action. A stallion which is too small or of a rather poor conformation shall not be bonused. TWO and THREE YEAR OLD COLTS MUST BE NORMALLY DEVELOPED ACCORDING TO THEIR AGE.

c - A stallion affected by any of the following diseases, defects or deformities shall be declared ineligible for the keeping premiums:

Cataract—Periodic Ophthalmia (Moon Blindness)—Laryngeal Hemiplegia (Roaring or Whistling)—Pulmonary Emphysema (Heaves, Broken Wind)—Chorea (Crampiness, Shivering, String-halt)—Bone Spavin—Ringbone—Sidebone—Nervous disease;

Thoroughpin and Bog Spavin when associated with a predisposing (curby) conformation of hock (with or without the presence of an actual curb).

Weak, Contracted or Misshapen Feet, or any other marked Faulty or Weak conformation, or Unsoundness which may be transmitted to the Progeny.

N.B. Should a defect result from an accident and not be of a hereditary nature, the Inspectors are bound to say so in their report.

d - For any draught stallion in good breeding condition, the normal weight should be around:
1,500 lb at 3 yrs, 1,600 lb at 4 yrs, and 1,700 lb at 5 yrs or over.

3 - The Inspectors will report to the Stallion Enrolment Board, in Quebec, where the horses inspected will be classified. The Board is also responsible for issuing Enrolment certificates in due course. At the request of any stallion owner, the Director of the Artificial Insemination and Livestock Improvement Service may make known the reasons set forth by the Board as to the grading of his horses.

4 - It seems advisable to keep to the following limits as to the number of services to be performed yearly by any one stallion:

2-year-old colt	20 mares
3-year-old colt	50 mares
4-year-old stallion ..	75 mares
5-year-old and over	100 mares

5 - In pursuance of the present policy, the Department of Agriculture and Colonization agrees to pay the following premiums:

CLASS "A" STALLIONS

\$9 for each of the first 10 mares in foal, and
\$3 for each of the following 20 mares.

CLASS "B" STALLIONS

\$6 for each of the first 10 mares in foal, and
\$2 for each of the following 20 mares.

6 - The grant will be paid upon production of the above-mentioned list of owners of mares served and known to be in foal, such statement to be declared first before a Justice of the Peace or Notary Public.

7 - Any stallion owner departing from the established regulations loses his right to benefit from the Assistance for the Improvement of Horse Breeding policy.

These regulations supersede the former ones and will remain in force until further notice.

The Deputy Minister of Agriculture
and Colonisation,
ROMEO LALANDE
Artificial Insemination and
Livestock Improvement Division



Little Christiane Mailhot admires the ducks on her father's farm at St. Pierre-les-Becquets in Nicolet County, Quebec.

improved strain of Aylesbury duck

Increased egg production and incubation rates are claimed by the breeders for a new strain of Aylesbury duck, the "Catterall", reared in Britain. Trap nest records of between 200 and 300 eggs per bird over a period of 12 months are reported, and of the eggs set approximately 70 percent hatched out. This compares with a national average production for Aylesbury ducks of 110 eggs a year, from which hatchability of about 50 per cent is achieved. The breeders say it should be possible for the new strain to be bred to a stage where rates of more than 300 eggs a year can be obtained.

Aylesbury ducks are generally accepted as an ideal breed of table duck for crossing, and are also acknowledged for the quality of their meat. As in an

earlier strain of meat bird produced by the same breeders—reported to give meat drakes with a full grown weight of between 11 and 12 lb—the new layer is claimed to carry less fat under the skin, and the large breastbone is reduced. As a result, the layer gives a table weight at 8½ weeks of 7 lb for ducks and 7½ lb for drakes.

Two types of day-old stock are produced: wing banded, which are provided with details of parentage for subsequent pure Aylesbury breeding, and flock mated for cross-breeding.

The breeders, who have been working on the strain for nearly eight years claim that no other strain of Aylesbury duck has such a high rate of egg production and incubation.

food irradiation

Under a contract signed with the European Community for Atomic Energy (Euratom), the Netherlands has undertaken a research programme aimed at legalizing the sterilization of food by ionizing radiation. At present, the commercial production and sale of irradiated food is forbidden by law in the six countries of the European Economic Community.

Prime contractor is the Netherlands State Institute for Public Health. It must devise methods ascertaining that public health will not suffer from any harmful side-effects irradiated food might have, and test the efficiency and reliability of food irradiation

methods.

The contract also calls for a study of nutrition values of irradiated food and a study of any physical, chemical or biological changes in irradiated food. Methods to be used by researchers include differential thermal analysis, spectropolarimetry and electron spin resonance.

Irradiated foods to be studied will include meat, fish, cereals, potatoes, eggs, dehydrated eggs, fruit and vegetables treated with cobalt 60, caesium 137 and X-rays. Researchers will study food immediately after irradiation and compare it with stored food irradiated three, six and twelve months earlier.

winter wheat

Four varieties of winter wheat—Genesee, Talbot, Richmond and Rideau—have been recommended by the Ontario Committee on Field Crop Recommendations for planting this year. Since the first three were also recommended by the Quebec Seed Board, the following description by G. H. Clark of Harrow, Ontario, may interest Quebec farmers.

Talbot, a relatively new variety, was licenced for sale in Canada only five years ago but a considerable quantity of seed is now available to growers. It is white seeded, about equal to Genesee in yield and milling quality, but with somewhat stronger straw and better leaf-rust resistance.

Genesee, still one of the most popular varieties in Ontario, is widely adapted in that province and produces good yields under most conditions. In variety trials at the CDA's Woodslee substation, Genesee produced about the same yield as Talbot, over the past six years. Like Talbot, it has medium straw-length and white grain of good milling quality.

Richmond is more winter hardy than Talbot and Genesee. It is adapted to most areas south of Ottawa in eastern Ontario. It has white grain of good milling quality and straw of medium height and strength.

Rideau is the most winter hardy of the varieties grown in Ontario. It is recommended for the more northern areas of the winter wheat growing region, such as Renfrew County, and for other areas where winter killing of Genesee occurs fairly frequently. Rideau has a white grain, but this is of only fair milling quality. It should, therefore, be grown only for feed. Its straw is of medium height but only moderate strength.

contest winners

The Minister of Agriculture and Colonization, Mr. Clément Vincent, has announced the names of the winners in this year's Pioneering Merit competition for settlers.

In the gold-medal class, Mr. Benoit Tremblay of Sainte-Marguerite Marie in Roberval County came first among the five entrants to win the medal, the title of Commander of the Order and the diploma of exceptional distinction with a score of 928 points out of a possible 1,000.

Mr. Roland Demers of Joly, Lotbinière, led the field of nine candidates for a silver medal with a score of 933, and Mr. Germain Constantineau of Kiamika, Labelle, was first among nine contestants in the bronze-medal class with 858 points.

This year, the contest was held in the first of the three regions into which the province is divided for purposes of the competition. This region takes in 59 counties in the following areas: Lake St. John, the north shore of the St. Lawrence from Saguenay county to Pontiac county, and the south shore from Huntingdon to L'Islet, inclusive.

The judging committee which judged the contestants' farms consisted of the president, Mr. Gérard Hudon, Agronome, and Mr. Joseph Séguin and Mr. Gustave Rioux, both of whom are Commanders of the Order.

magnesium needs of cigarette tobacco

Tobacco growers know in a general way that magnesium is necessary to grow a successful crop of flue-cured tobacco. But they often ask what is the optimum amount needed to grow the most desirable crop from the standpoint of both quality and quantity.

Mr. Jean Allard, tobacco specialist at L'Assomption Experimental Farm, makes the following recommendations. After four years of trials at the Lavaltrie sub-station to determine the amount of magnesium required by flue-cured tobacco, it was found that the application of 14.4 pounds per acre of $\frac{1}{4}$ -solubilized magnesium (the equivalent of 24 pounds of MgO) was sufficient for a profitable yield of tobacco and a good-quality leaf under the experimental conditions.

In the trials, five levels of magnesium were tested, namely 0, 14.4, 28.8, 43.2, and 57.8 pounds per acre applied in the form of $\frac{1}{4}$ and $\frac{1}{2}$ solubilized magnesium.

Absence of magnesium hindered growth of the plant, whereas ample applications of 28.8 pounds or more per acre appreciably raised the yield of tobacco but lowered the quality and delayed maturity.

Use of $\frac{1}{4}$ solubilized magnesium gave as good results as those obtained with $\frac{1}{2}$ solubilized.

(Translated from "Agriculture",
Montreal, Vol. XXIV, No. 4)

production of apple juice in Quebec hastened by irradiation

A way of speeding up commercial production of apple juice has been found by Professor J. P. Julien and co-workers of the Food Science Department in the Faculty of Agriculture at Laval University.

Professor Julien, who has been entrusted with research on food irradiation by the Research Council of the Quebec Department of Agriculture and Colonization, has discovered a procedure which considerably shortens the time required to reduce the action of certain pectic substances prior to filtration during the preparation of apple juice. This reduction is an essential step in the process, otherwise the pectic substances would quickly clog the filter.

At present, Quebec manufacturers use enzymes to flocculate the pectic substances in each batch of juice, an operation that takes at least three hours per batch. But by using the method devised by Professor Julien, in which the liquid is exposed to deeply penetrating gamma rays from a cobalt bomb, very satisfactory results are obtained in a few minutes.

In the factory, this method has the advantage of allowing continuous preparation of apple juice, whereas with the method they have used up till now, manufacturers have been limited to preparing juice in batches.

Professor Julien stressed the fact that the irradiation is harmless and leaves no trace of radioactivity in the treated juice. If the dose of gamma rays is properly calculated, it does not affect the flavour of the food product; on the contrary, it improves it by reducing the viscosity which some consumers complain about.

So far, the research team directed by Professor Julien has used the cobalt unit at the Science Faculty of Laval University as its source of gamma rays; but, in future, it will use a more powerful unit to be supplied by Atomic Energy of Canada.

In the course of his research, Professor Julien has also studied fermentation of apple juice and methods of treating certain volatile substances with a view to improving and standardizing the quality of the juice.

Women's Institutes

Indian president visits Quebec Women's Institute groups

NEWS AND
VIEWS OF THE
QUEBEC WOMEN'S
INSTITUTES
INC.

Edited by
Viola Moranville,
Publicity Convenor
Q.W.I.

A 70-year-old woman in a remote Indian village took up a pencil and began writing her name and the name of the village in which she lived.

She was so happy that she burst into tears of joy.

This story was told to a group of about 250 members of the Quebec Women's Institute from 11 counties in the Eastern Townships and surrounding areas when they were addressed at Bishop's University theatre, by Mrs. Aroti Dutt, of India, president of the Associated Country Women of the World.

Mrs. Dutt, a graduate of Calcutta University, took time out to visit Sherbrooke and Lennoxville while touring

Canada enroute to the 12th Triennial Conference of the ACWW which was held in East Lansing, Mich., from Sept. 3 to 14.

Mrs. Dutt also visited Lachute and spoke with members from Argenteuil County Women's Institute. The reception was held in the Presbyterian Church.

Special guests at the Lachute reception were Mr. Robert Major, M.P., and his wife, Dr. Z. Saindon, M.L.A. and Lachute Mayor and his wife, and Mr. and Mrs. R. Giles, Giles Publishing. Each gentleman brought a welcome from the community and extended best wishes to all. Other welcome guests were Mme. O. Brisson and Mmes H. Lepine representing the Brownsburg Cercle des Fermières.

Mrs. Dutt took her listeners from an Institute meeting by radio in isolated farm homes in Australia; to the Pacific Islands where a boat calls only once a year; to Sarawak (in the western part of Malaysia where the meeting was held in the Long House high up on posts away from wild animals; to the Cameroons in Africa where the 45 wives of a tribal chief had an Institute in the palace (the Chief giving great praise for all that his wives were doing); to India with 17 major languages and a population of 550,000,000 (80% are living in the rural areas), where illiteracy is a problem; to Greenland where Institute meetings are held only during the long winter evenings with the women busy working on their seal skins.

(more overleaf)



Mrs. Aroti Dutt, of Calcutta, while visiting here as a guest of Quebec Women's Institutes, was escorted to city hall to meet the mayor and to sign the Golden Book which records notable visitors to this community. Seen in the group, left to right, are: Mrs. V.R. Beattie, provincial treasurer of Q.W.I.; Mayor Dr. Saindon; Mrs. Geo. McGibbon, provincial president; Mrs. Dutt; Mrs. H.L. Wallace, provincial vice-president; Mrs. J.W. Westover, provincial 2nd. vice-president; Mrs. J. Ossington, past provincial president; Miss Hanna Smith, Argenteuil County president.

Canadian women have made great progress since 1897 when Adelaide Hoodless started Women's Institutes in Ontario so that mothers might learn how to properly care for their babies and not see them die as a result of ignorance. Yet, thousands of babies are dying in the world to-day just because their mothers have not had the opportunity to learn proper child care.

Charity is not the answer... these women need the opportunity to learn how to help themselves. Pennies for Friendship from the Women's Institutes are helping to send technicians to some of these needy women.

Mrs. Dutt told those listening that while rural women around the world were in different stages of progress, their objective was the same, namely, to be good wives and mothers.

"When you don't know how to read or write, it is like living in a dark room," said Mrs. Dutt.

There is a complete contrast between the educated elite Indian women and the totally illiterate.

"Eighty percent of the female population—those who live in the rural areas—can't read or write," said Mrs. Dutt, as compared to India's female professional women, lawyers, doctors, engineers, and politicians.

Said Mrs. Dutt: India's two main problems are the high illiteracy rate and the population explosion.

As a Pilot Project in India, the ACCW establishes centres for adult education and its main contribution is the Lady Aberdeen scholarship which enables mothers and housewives to be trained in nutrition, child care, and hygiene. They are trained in other countries and then sent back to their own to train others.

Although the ACWW doesn't have a family planning mandate, India's WI voluntary workers have organized birth-control clinics. The Indian government also endorses and aids family planning programs

"People do not want handouts. If you want to help them, help them to help themselves," said the ACWW president.

Said the speaker, the most important work being done is not the work that catches the eye of the press or radio but is the work being done in the household, the work that the world doesn't know the value of.

The divorce rate in India is not high in comparison with developed western countries and is socially frowned upon.

The reason for this could be that at one time divorce was not permitted in the Hindu religion.

And there is little juvenile delinquency in India. This could be because of strong family ties, said Mrs. Dutt.

India has its working mothers, but usually the children are left in the care of the mother-in-law or some other close relative.

Quipped the ACWW president: "The mother-in-law has a strong influence in India."

Her mother-in-law, Saroj Nalini Dutt, was the founder of the ACWW in Bengal in 1913.

Mrs. Dutt has visited the Maritimes; she will address the Federated Women's Institute of Canada in Ottawa and also plans on visiting the Prairie provinces.

APPOINTMENTS

(from p. 9)

MRS. MILDRED JONES will be teaching courses in Educational Administration, after twelve years of experience as a teacher in Nebraska and California. Mrs. Jones completed her Ph. D. degree at Stanford University. She will be living in No. 3 Glenaladale Terrace with her son.

DR. DAVID LAWSON obtained his Ed. D. degree at Teachers College Columbia University, in 1959. He has taught at the University of British Columbia, Hunter College, and Western Washington State College. He joins our Department of History and Philosophy of Education and will live in Brittain Hall.

MR. HUGH M. LEARD is moving to the campus from Arizona with his wife and child. He obtained his doctoral degree at Arizona this year but he took both his B. A. and B.Ed. degrees in Saskatchewan. Dr. Leard will work in the Dept. of Guidance and Counselling and will live at 5 Stewart Park.

MR. JOHN P. LIPKIN accepted appointment in our Department of History and Philosophy of Education. He obtained his Ph. D. from Michigan in 1966 after experience as a secondary school teacher in New York, research associate at Bombay (India) and Assistant Professor at Rhode Island College. For the past two years he has been at the University of Virginia and this summer he was on the staff of the University of Calgary. Dr. Lipkin is married and has three children.

MR. DENNIS LUCAS will be a sessional lecturer this year in English Composition. He completed his professional year with us this spring and will also be registered as a graduate student this autumn.

MRS. MAISIE MACRAE will be a sessional lecturer and will work with the MEET project. Staff will need no introduction to Mrs. MacRae as she has worked with us in several capacities in the past.

MR. KENNETH R. ROULX is joining the staff in Guidance. He holds and Ed. D. degree from the University of Massachusetts and has taught in a secondary school before becoming a Counsellor. He comes to us from the University of North Dakota and will live at 7 Rivermead with his wife and two children.

MR. WILLIAM TALLEY will join the staff in Guidance in January. He holds a double B.A. (one in religious education and one in elementary education); an M.A. in Administration and a Ph. D. in Guidance from Ohio University. He is at present on staff at Rio Grande College. Dr. Talley is married and has one child.

MR. LOUIS TOMASCHUK will be teaching science methods with us. He joins our staff after many years of experience in the Montreal school system and he served during the past year as Science Consultant of the South Shore Regional School Board. His B. S.c. degree was taken in Saskatchewan and he is the author of *Physics Problems for High Schools*. Mr. Tomaschuk will continue to live at St. Bruno.

MR. BOYD WHITE is replacing Professor Lorcini for the year. Mr. White taught Art in Montreal for five years and then obtained his M. F. A. in Mexico last year. Mr. White and his wife will live in Montreal.

MR. JACK YOUNG is our appointee in methods for Technical and Vocational subjects. He comes to us from Saskatoon where he was Department Head and Senior Instructor. He attended Shoreditch College of University of London, University of British Columbia, and Kent State College where he received his M. A. in Industrial Education. Mr. Young has taught at the Ontario College of Education for the past two summers and he is at present President of the Canadian Industrial Arts Association. Mr. Young and his wife will live at Glenaladale Terrace. They have two married children.

MISS MARILYN S. ZWAIG is a sessional lecturer in Special Education this year. Miss Zwaig holds an M. A. in Special Education from Syracuse and was on staff at Macdonald this past summer. She lives in Montreal where she works in the Westmount Park School and the Montreal Children's Hospital. The Faculty also welcomes back Mr. Brian Cleary, Mr. Keith Jobling and Mrs. Frango Stinson all of whom were doing advanced studies during the past year.

for students in residence:

reducing diet

*by Florence A. Farmer,
School of Food Science*

The year is full of beginnings! January 1 is the start of our calendar year but spring is the beginning of the growing season. Labor Day brings summer to an end but it is also the beginning of the new academic year. The five-year-old girl goes off to school for the first time. The teenager starts her studies at high school and the college student begins an exciting new adventure. There are many new experiences in store for her — new friends to meet, new ideas to discuss, new problems to solve. A whole new way of life opens up.

One of the changes which many girls observe when they go to college is that they start to put on weight. Their activities are completely changed. Whereas in school they often walked long distances from home and took part in strenuous sports while at school, at college they live in residence and find little time for games. A student finds the food in the dining room different from the food that her mother used to prepare. She is offered dishes she has never tasted before. Meal times are planned according to lecture-schedules and she finds she must eat then, even if she is not hungry, or provide her own food. She gets into the habit of skipping meals and then filling up on snacks when she is hungry. Snacks well chosen can provide both energy and nutrients which a student requires but the snacks which are cheap to buy and which keep well are those with a low-moisture content. These are often low in protein though high in carbohydrate and are quickly digested but have little staying power. The snacks that are high in fat are more slowly digested than those high

in carbohydrate so they give a feeling of satiety. However, they have the disadvantage that they provide calories in a concentrated form and a student can easily eat more than her daily requirement of calories.

The diet provided for the students at Macdonald College is planned by a dietitian. A survey carried out last year showed that if the students ate the food provided, the diet met their requirements. The problem which faces the new student coming to the College is one of adjustment. At first she should eat whatever she enjoys from the menu provided. It is essential, however, that she get weighed at intervals and if she finds that her weight has increased more than five pounds above what is considered normal for her height (not necessarily her weight on arrival at college), then she should put herself on a reducing diet for students in residence. This consists of using skim milk instead of two-per-cent or whole milk, cutting all visible fat from meat, eating only raw fruits and vegetables between meals and, finally but most importantly, learning to eat in moderation.

There are some foods which provide energy in the diet but few nutrients. These should be avoided altogether. Cakes, cookies, pie, pastry batter puddings, jam, marmalade, regular soft drinks and refined sugar in any form, are not necessary in the Canadian diet and can be safely omitted without resulting harm. Cream, bacon, fried eggs and fried potatoes are concentrated forms of calories. They are good foods providing, in addition to the calories, many valuable nutrients. However, these nutrients can be obtained in other foods or in the same foods cooked in a different way. For this

reason, these foods have been listed among those that are unnecessary and should be omitted.

There are some foods, however, that are fairly high in calories but provide nutrients not easily obtained in other ways. These include milk puddings, macaroni and cheese, potatoes, butter, fried meat (especially liver) and fried fish. These foods are served regularly in the dining room and must be eaten, albeit in small amounts, if the necessary nutrients are to be obtained. This is where a student can learn to use self-control in eating. There is also a small group of foods such as rolls, nuts, ice cream, honey, syrup and peanut butter which are hardly ever served in the dining room. These should be eaten when served with meals, as they provide variety in the diet. However they should never be eaten between meals. You will recall that only raw fruits and vegetables should be eaten between meals. The last group of foods which can be eaten in small amounts on this diet — sauces, gravy and mayonnaise — are allowed because the foods with which they are eaten are important. Without mayonnaise, salads are very often refused. Without sauces or gravy, vegetables and meat can be very dry and uninteresting.

It is easy to blame someone else when we gain weight. It is much more difficult to use our self-control and intelligence in dealing with the problem. However, in this area as in others, an ounce of prevention is worth a pound of cure. Being able to control your weight, on your own, will increase your self confidence. Blaming someone else for your inability to do so will undermine your self respect. Enjoy your meals but learn to eat in moderation.

Reducing Diet for Students in Residence

1. Use skim milk.
2. Cut all visible fat from meat.
3. Between meals, eat only fruits and vegetables (raw).
4. Learn to eat in moderation.

Omit

Cake
Cookies
Pie
Pastry
Batter puddings
Jam
Marmalade
Sugar (added)
Soft drinks
Cream
Bacon
Fried eggs
Fried potatoes

Have Small Servings

Milk puddings
Sauces
Gravy
Mayonnaise
Syrup
Honey
Macaroni and cheese
Rolls
Potatoes
Nuts
Ice cream
Butter
Fried meat
Fried fish

Quebec Young Farmers camp

by Teresa Whelton

Quebec Young Farmers, with the collaboration of Quebec Farmers Association, recently conducted a week-long summer camp workshop.

Its goals: Leadership training and the furthering of the Quebec Young Farmers provincial organization.

Twenty-six young people, between the ages of 14 and 22, registered for camp and twenty-five actually completed camp activities. These people came from the Sherbrooke, Lachute, Shawville, Chateaugay Valley and Waterloo-Cowansville areas in Quebec.

The Spooner Pond Boy Scout Camp Site in Richmond County was the scene of this camp from August 3 to 10.

The campers were sub-divided into tribes — the Iroquois, Hurons and Mohawks. Each tribe appointed two persons to each of the four committees: Town Council, Inspection, Canteen and Program. These committees alternated every two days; therefore, no one person was on a committee longer than two days.

Camp staff included Louis Bernard (Macdonald College Centre for Continuing Education); Galen Driver (Macdonald College Centre for Continuing Education); Frank Igaz (Swimming Instructor & Lifeguard); Teresa Whelton (Secretary-Manager of Quebec Farmers Association) and Mrs. Audrey Wheeler (Chef).

Guest speakers at camp included: Mr. A. L. Van Luven, dealing with the subject of Land and Water Pollution; and Dr. Eigel Pedersen, dealing with the subject of Dating Patterns in the North American teenage group. Galen A. Driver dealt with three topics: Program Planning,

Leadership and Parliamentary Procedure. The Group Discussion and Formal Etiquette topics were dealt with by Teresa M. Whelton.

The future goals of Quebec Young Farmers were discussed at length. At a previous weekend conference in March at St. Anicet, a provincial executive committee was appointed and a motion stating their policy guidelines was carried. This committee consists of:

Colleen Coates—Sherbrooke
Carolyn Templeton—Chateaugay Valley

Chris Judd—Shawville
Keith Jenne—Waterloo-Cowansville
John Heatlie—Lachute

This committee was given a vote of confidence and asked to continue its work. Plans were made to approach the Directors of Quebec Farmers Association re support.

A meeting of the committee is planned for November.

The camp was a success in many aspects. Campers came for many and varied reasons, the most prominent being:

- (a) leadership training
- (b) to further a provincial organization i.e. Q.Y.F.
- (c) to meet people
- (d) fun

I believe that all campers will agree that these four goals were attained. The individual degree of attainment of these goals depended on the energy and work put into camp activities.

Perhaps an even truer measure of the success of the camp might be found in the high percentage of campers who feel that a similar camp should be held next year.

A REPUTED NAME IN FERTILIZATION...

QUEBEC FERTILIZERS INC.

An Association of Plant Food Manufacturers and fertilizers Distributors across the Province of Quebec whose objectives are:

"TO PROMOTE AND IMPROVE AN INTELLIGENT AND ECONOMICAL USE OF PLANT FOOD AND TO ENCOURAGE SOUND AGRICULTURAL PRACTICES IN QUEBEC SO AS TO MAINTAIN AND IMPROVE THE SOIL FERTILITY".

Through demonstrations, lectures, informative literature and advertisements, tours, etc. this Association brings to farmers the findings of Researches and Colleges.



Gordon Thompson joins staff

It is a pleasure to welcome Mr. Gordon Thompson to the staff at Macdonald College. While he will be associated with the McGill Information Office, he will be working closely with the Centre for Continuing Education at Macdonald College.

Mr. Thompson is a Macdonald graduate, B.Sc. '48. Originally from Abbotsford, Quebec, he returned to his home community following graduation where he operated a major apple and hog producing enterprise. Mr. Thompson has worked with the pharmaceutical industry and most recently has served as a member of the Quebec Royal Commission on Agriculture.

Mr. Thompson commenced work at the College on June 3. We welcome Gordon, Enid, Jane and Jock to the Macdonald community.

'take time' for ten things

1. Take time to work—it is the price of success.
2. Take time to think—it is the source of power.
3. Take time to play—it is the secret of youth.
4. Take time to read—it is the foundation of knowledge.
5. Take time to Worship—it is the highway of reverence, and washes the dust of earth from our eyes.
6. Take time to help and enjoy Friends—it is the source of happiness.
7. Take time to love—it is the one sacrament of Life.
8. Take time to dream—it hitches the soul to the stars.
9. Take time to laugh—it is the singing that helps with life's load.
10. Take time to plan—it is the secret of being able to *have* time to *take* time for the first nine things

life's recipe

1 Cup of good thoughts
1 Cup of kind deeds
1 Cup of consideration for others
2 Cups of sacrifice for others
3 Cups of forgiveness
2 Cups of well-beaten faults
Mix these thoroughly and add tears of joy and sorrow and sympathy for others. Fold in 4 cups of prayer and faith to lighten other ingredients and raise the texture to great height of Christian living. After pouring all this into your daily life. Bake well with the heat of human kindness. Serve with a smile.

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Outdoor posters will reach our *entire market* with milk featured in March/April, ice cream May/June, Dairy Month June/July, milk September/October, butter October/November and the Festive message November/December.

Full page, full color ads—milk in April, cheese in October and Festive in December —will reach homemakers through *Chatelaine*. A full page, full color ad will appear in most major newspapers promoting June Dairy Month, with weeklies carrying black and white versions. Editorial activity and point-of-sale promotion will continue.

Your set-aside dollars will be seen by all Canada in '69!





by Norma E. Holmes

and home

Dear Min:

Arriving at my hotel in London, the porter asked if I would like to go to the dining room. As it was after midnight I declined. But why didn't he tell me that Peter Sellers and wife, Vera Lynn and the Marx Brothers were putting on a show for the Air Force in the dining room and all the hotel guests were welcome?

Five hundred rooms and not one with bath, but lots of carpets (all Europeans are allergic to bare wood showing underfoot), drapes and chandeliers. And at the dining room door stood a Personage clothed in dignity, plus long-tailed coat and striped trousers. We could all see empty places, but no one in the queue dared move until he recognized them with a slight beckoning finger motion. My foot itched to trip him as I went by. I wish I had. I was leaving that day anyhow. I was put at table with a nice middle-aged couple who said they had been coming to that hotel for years, but 'it wasn't what it used to be', for now, she said, it was full of 'trippers'. 'Like me,' I confessed, meekly. Someone told me after that never, never in those good old days, would the guests in that hotel have been put with strangers, so I expect I was lucky they even spoke to me.

Farewell to London. Farewell Piccadilly and farewell Leicester Square. One last look at the statue of George III (?)'s son (I really should pay more attention) upon a high post, placed so high our guide had said, so his creditors couldn't reach him. Band music at the Air Terminal and a rush to the window (with camera) to watch the Guards marching past all flashing red and glitter.

I was home in three weeks — a 21-day excursion was all Aunt Harriet allowed me. It's just too bad I didn't have two Aunt Harriets. Of course, I MUST go back some day. I'd like a week in Windsor and days in some of those little villages with the narrow cobbled streets, and I could spend a few summers quite happily beside any of those Swiss or Italian lakes.

It was good to get home though. The baby didn't know me. My accent perhaps?

I've got fourteen colored films to be developed, mostly moving pictures — unintentional — as they were taken through the bus window at high speed. My fellow 'busers' were highly amused at my snapping. In the Alps they would shout 'Over here' and I would scramble over knees to get to the window, but by that time we would have rounded one of those hairpin curves and the view would be on my side. I have one complete film of double exposures. I bought this camera in Germany. Thought that was the proper place — and might be cheaper — and the clerk had assured me it was impossible to take double exposures. I have two frames of triple exposures, which John says no one but me could have taken. I can see where the Lowmans will be living on potatoes again until I get them all printed.

Still, it wasn't a bad idea — the double exposures, I mean. I finished up the film with a snap of John and when it was printed he had a background of Paris — and not a cent for travel, as he said.

I have a suggestion for tourist guides to make lots of money. As most of the paintings and other things to look at are on the ceilings of castles, cathedrals, etc. they could supply cots, where tourists could be

pushed around lying flat on their backs. You see more people coming out of those buildings trying to pull their heads back to a vertical position.

There are other things I could mention, but not in a letter. You can buy a book on them called 'The Loos of London', but that is only the London ones. I might add that most have chain pulls.

However, in Europe there is the bedding — which all goes out over the windowsill in the morning to air, even the mattress. I had the feeling that they could hardly wait until we left to strip the beds. And there are the eiderdowns — white mountains buttoned into pretty white cotton covers and resting on your bed folded into the neatest oblong — I would like to have seen it done. But unless you need it — and you probably don't — don't try to unfold it or you're in trouble. All the feathers immediately shoot down to the other end. If you get warm — as you will — you try to roll it back and it towers above you, a white mountain, threatening smothering, and if you slide it onto the floor — if it hasn't slid there already — it just billows up around you when you step into it in the morning, and your roommate has to call the maid to find you.

I got a cuckoo clock in Switzerland and it is the most inquisitive bird I have ever come across. If I move the hands or pull on the chain he opens the door to see what is going on and then refuses to either go in or shut it. In this way he missed calling out the half hours once, then suddenly, because of his sense of duty or because he had them all bottled up inside him, on the next half hour he cuckooed four times without stopping and went in and slammed the door. The children are fascinated. Wendy wanted to know what I was going to feed him.

— Eloise